January 22, 2015

Florence High School, EPA Hearing for Florence Copper Project

Good evening and thank you for allowing me to speak this evening.

My name is Mary Poulton. I am here as a 32-year citizen of the state of Arizona. I am a professor of mining engineering at the University of Arizona and director of the Lowell Institute for Mineral Resources. I have a background in hydrology and geophysics and sustainable resource development in addition to mining. I am co-owner of a small business that does well field optimization for complex water management problems but that company is not involved in the project.

I am here speaking as an informed citizen and not as an official of the university. I am not a consultant to the Florence Copper Project nor have I done research for the company. I do not have any financial stake in the project.

In a previous career, I worked for the US Army Corps of Engineers and sometimes sat on your side of the table at public hearings related to flood plain planning from Omaha to Chicago and St. Paul to St. Louis. I appreciated then and now the opportunity to have real dialogue with knowledgable stakeholders and that sometimes emotions run very high. But at the end of the day, our regulatory decisions were based on best available science and engineering knowledge and not on emotions. We are governed by rule of law and not rule of man.

I have been familiar with this copper deposit for nearly 30 years. As you know, copper mining was historically small scale underground mining until the early 1900s when it became technically feasible for large scale, low grade open pit mining. We now have an opportunity for a 21st century approach to mining without the large scale surface disturbances we have seen for the past century. In situ mining is technically feasible and this deposit is perhaps the most perfect deposit for in situ recovery. Engineers and geologists have studied this deposit for a long time and the technology available to model and monitor solution flows is highly advanced. There are hundreds if not thousands of successful projects around the world for mining, oil/gas, water, environmental clean up that control the flow of solutions within wellfields. The Florence Copper Project is not about mining in the traditional sense, it is about control of subsurface solutions to extract copper. It can be a game changer to produce a critical mineral resource in the most sustainable way possible.

The principles of sustainable resource development are to balance the pillars of environmental stewardship, social responsibility, economic growth, and good governance capacity. Mining converts natural capital to other forms of capital that allow economic growth. The environmental regulatory system here is the most stringent in the world. Mining today is highly technologically advanced, companies are serious about corporate social responsibility and environmental stewardship. Companies in Arizona have spent hundreds of millions of dollars in recent years to reclaim historic mine sites whether they had anything to do with the mining or not. The advantage of this copper deposit is that after the copper is extracted and the subsurface volume is thoroughly rinsed there is no legacy. The site can be not just reclaimed but restored to a new economic use making the value of this land far greater

with mining and post mining land use than if only the surface is used with little economic gain. This deposit can produce copper at the lowest cost, the lowest water use, the lowest energy use, and the lowest surface and subsurface impact. Any person who proclaims to care about the environment, both local and global, has to consider that producing copper from this deposit is the best opportunity for the local area, the state and the world. This project doesn't impact glaciers in the Andes Mountains, endangered species in the Amazon, or feed corruption in Africa. It does provide economic benefits to a local area that needs it and to a state that is struggling to provide the kind of education, infrastructure, and opportunities for its citizens that we all know we need.

From a technical and sustainability perspective I strongly believe, based on my years of research and study, that this project is technically feasible, environmentally safe, and beneficial to this community. I have never spoken at a public hearing in support of a specific project but I feel so strongly about the technical feasibility of this project, the benefit to the local and state economy, and the global importance of the project that I could not remain silent.